INVENTORY MANAGEMENT (4.3)

(Chapter 24 - AS level 4.3)

Inventory refers to all the items, goods, merchandise, and materials held by a business.

Firms can hold inventory (stock) of **raw materials** for production, goods that are not completed yet (a.k.a **work-in-progress**) and **finished unsold goods**. Finished good stocks are kept so that any unexpected rise in demand is fulfilled.

Why is inventory management important?

- Enables businesses to have enough inventory for unexpected changes in demand
- Ensures that none of the inventory kept is out of date (keeping stuff fresh.)
- Prevents unnecessary wastage of materials
- Deliveries are more likely to be on time (better consumer satisfaction.)

Benefits of holding inventories :

✔ **Avoids losing sales** by having enough inventory to match surprise orders
✔ If inventories of raw materials and components run out, then production will have to stop
✔ Business can **order materials in bulk** since there is space to store it and **get discounts**

Costs of holding inventories :

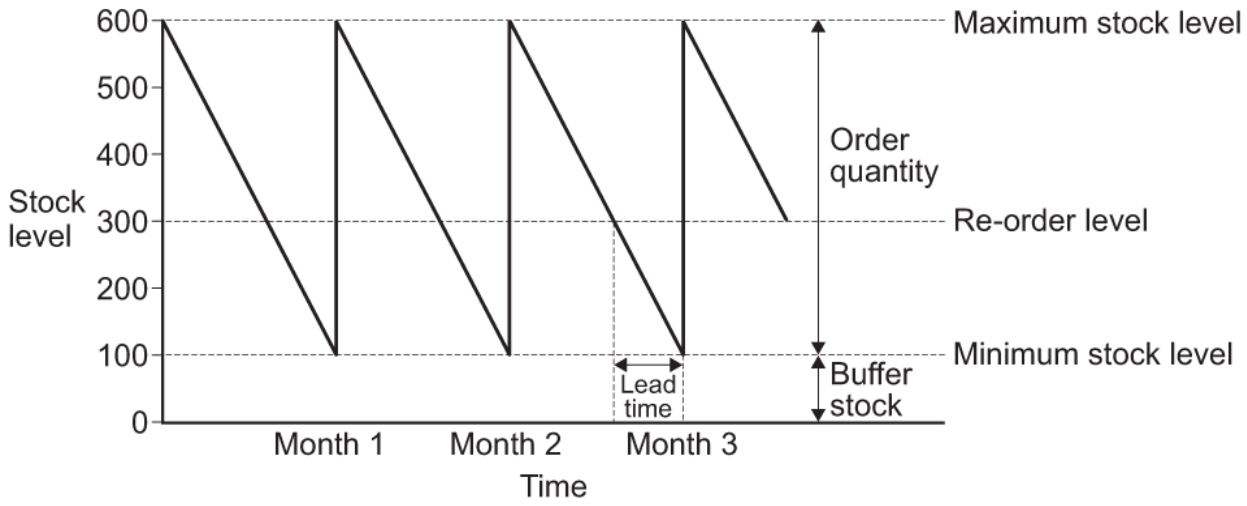
✖ **Storage costs** of having to hold goods in warehouses, + in special conditions (refrigeration..)
✖ Risk of **wasting materials** if they aren't used in time (wasting money spent on them as well)
✖ **Opportunity cost -** the money spent on materials that may not even be used could instead be used for other purposes (investing etc.)

When inventory gets to a certain point, called the **reorder level**, they will be reordered by the firm to bring the level of inventory back up to the maximum level again. The business has to reorder inventory before they go too low since the reorder supply will take time to arrive.

The time it takes for the reorder supply to arrive is known as the **lead time**.

The **buffer inventory level** is the level of inventory the business should hold at the very minimum to satisfy customer demand at all times. During the lead time the inventory will have hit the buffer level and as reorder arrives, it will shoot back up to the maximum level - which depends on the space the business has available and the amount of money they have to spend. This minimum amount of inventory is called the **buffer stock.**

Interpreting inventory control charts



Just-in-time (JIT) as an inventory control method

Just-in-time is an operating system that eliminates the need to hold any kind of inventory by ensuring that supplies arrive just in time they are needed for production. In JIT :

- **Raw materials** are delivered only when needed
- **Work-in-progresses** are kept to a minimum
- **Finished products** are delivered to customers as soon as they are completed

For Just-in-time to work it will require :

- Reliable suppliers and delivery transport
- Flexible, multiskilled staff and equipment/machinery
- Accurate demand forecasts
- Suitable IT systems

Benefits of JIT :

✔ Reduces cost of holding inventory

✔ Warehouse space is not needed any more, so more space is available for other uses

✔ Finished goods are immediately sold off, so cash flows in quickly

Limitations of JIT :

✖ Business heavily relies on suppliers, if they do not deliver on time it will affect production, which will thus damage the business's reputation of being reliable

✖ Delivery costs will increase due to frequent small deliveries rather than infrequent bulk ones

✖ Having skilled staff and flexible machinery will add to costs (training etc.)